Leica Digicat xf-Series

Intelligent cable locators & signal transmitters

SITE PROOF
by Leica Geosystems

- when it has to be **right**

Leica
Geosystems

Leica Digicat xf-Series
Making cable avoidance easier & safer

Every year site workers are injured due to inadvertently striking buried utilities such as electricity cables or pipes. Obtaining accurate information about the location of buried utilities has never been more essential to protect employees, equipment and infrastructure during any survey or excavation project.

With Leica Geosystems state-of-the-art xf locators and transmitters, users can detect buried utilities faster and more accurately than ever before. The Leica Digicat xf-Series has been specifically designed with long distance tracing in mind. The ability to trace low transmitter frequencies provides a greater tracing range as well as the ability to locate sewer – camera inspection systems.

Leica Geosystems locators make locating underground utilities including power cables, street lighting, telecoms, conductive pipe work, sewer – camera inspection systems, easier than ever before, increasing your safety on site and ultimately saving you time and money.

Typical users of the Leica Digicat xf-Series:

- Surveyor specialist(s)
- Utility installation contractors
- Specialist repair contractors
- Gas and electricity companies
- Pipe laying contractors
- Sewer – camera inspection contractors

Leica Digicat xf-Series is comprised of:

- Digicat 500i/550i xf & 600i/650i xf locators
- Digitex 100t xf & 300t xf signal transmitter
- Logicat software
- Digitrace service tracer and additional accessories

How does the Leica Digicat locate?

The Leica Digicat xf-Series locates buried conductive services by receiving electromagnetic signals which radiate from them.

The intelligent software interprets the signal data and provides the operator with an audible and visual response to the location and direction of buried utilities. Offering the user additional tracing frequencies of 512 Hz and 640 Hz, makes long distance tracing and the positioning of sewer – camera inspection systems a simple task.

Leica Digicat xf-Series Benefits

- State-of-the-art Digital Signal Processing (DSP) technology
- Automatic controls – making the Digicat easy-to-use, requiring minimal user training
- Mode Lock – The Digicat starts in the last mode of operation assisting the survey process
- Hazard Zone feature indicating shallow buried service in power, 8 kHz, 33 kHz Auto, 512 Hz, 640 Hz modes
- Built-in test function – allowing operators to test the hardware and software functionality of the Digicat before use
- LCD screen with built-in light sensor, automatically enabling the backlight in dark conditions
- Robust, lightweight design specifically engineered for tough site conditions
- Service Due Indicator supporting planned maintenance schedules or quality systems by displaying a wrench icon after 12 months

The Leica Digicat xf locators have multiple modes of operation allowing users to have maximum control at their fingertips.

Auto Mode
Automatically locates power or radio signals, helping to confirm the presence of services upon initial site occupation making cable detection easier and safer.

Radio Mode
Traces signals originating from distant radio transmitters. These signals penetrate the ground and are reradiated by buried conductive services.

Power Mode
Locates power signals radiated by energised cables which pose the most significant risk to excavation teams.

Transmitter Modes
Locates a specific signal applied by the Digitex signal transmitter to a metallic underground conductor.

512 Hz & 640 Hz
Enables long distance tracing

8 kHz
Mid-range distance tracing

33 kHz
Standard tracing frequency on avoidance locators, used for everyday site use

Leica Digicat xf-Series

Accurately locating buried utilities for easier and safer cable avoidance

Leica Digicat 500i xf Features

Mode Lock
The Digicat starts in the last mode of operation assisting the survey process.

Hazard Zone
Buried utilities close to the surface pose a safety risk to site works. The new Hazard Zone function provides an additional warning of the close proximity of buried services, alerting users to the immediate danger.

Pinpoint Assist
Maintains the highest peak reading obtained on the signal strength indicator. The peak hold time can be adjusted between 0-5 seconds allowing the operator to quickly and accurately pinpoint the service position.

Signal Service Indicator (SSI)
Enables the user to trace an individual service among multiple services when using the Digitex signal transmitter. A numeric display shows the highest reading over the service being surveyed ensuring the user can follow the service without straying onto another. The SSI mode can also be used to trace the Digimouse with ease and provides the highest number when positioned directly over it.

Leica Digicat 550i xf
Additional Features

Depth Indication
The Digicat 550i xf features utility depth indication, when used in conjunction with the Digitex signal transmitter or Digimouse in 8kHz or 33kHz modes. With a single press of the button, operators can determine the depth of the buried utility down to 3 metres or the depth of a sonde down to 9.9 metres.

Current Level Indication
Displays the amount of current flowing through a service helping to trace and verify the utility to which the Digitex signal transmitter is connected.

Leica Digicat 600i xf
Additional Features

Data Logging
The Digicat 600i xf records and stores information while in use. Information is recorded every second after completion of the initial start-up routine. These records are stored in the locators memory and can be retrieved and transferred via Bluetooth® to a PC or other electronic device for analysis. Storage time is approximately 80 hours use.

Logicat Software
Allows you to upload the stored records to view the locators use. Simply upload all records or search by date.

Bluetooth® Connectivity
The Digicat 600i xf locator has the added benefit of Bluetooth® wireless connectivity. It allows the Digicat to integrate seamlessly with mobile mapping technology to log survey data, in addition to enabling wireless Bluetooth® data transfer.

Selectable Bluetooth® Option
Standard format supplied on all Bluetooth® enabled cable locators or a shortened version furthering the integration into GIS solutions.

Leica Digicat 650i xf
Additional Features*

Depth Indication

Current Level Indication

Data Logging

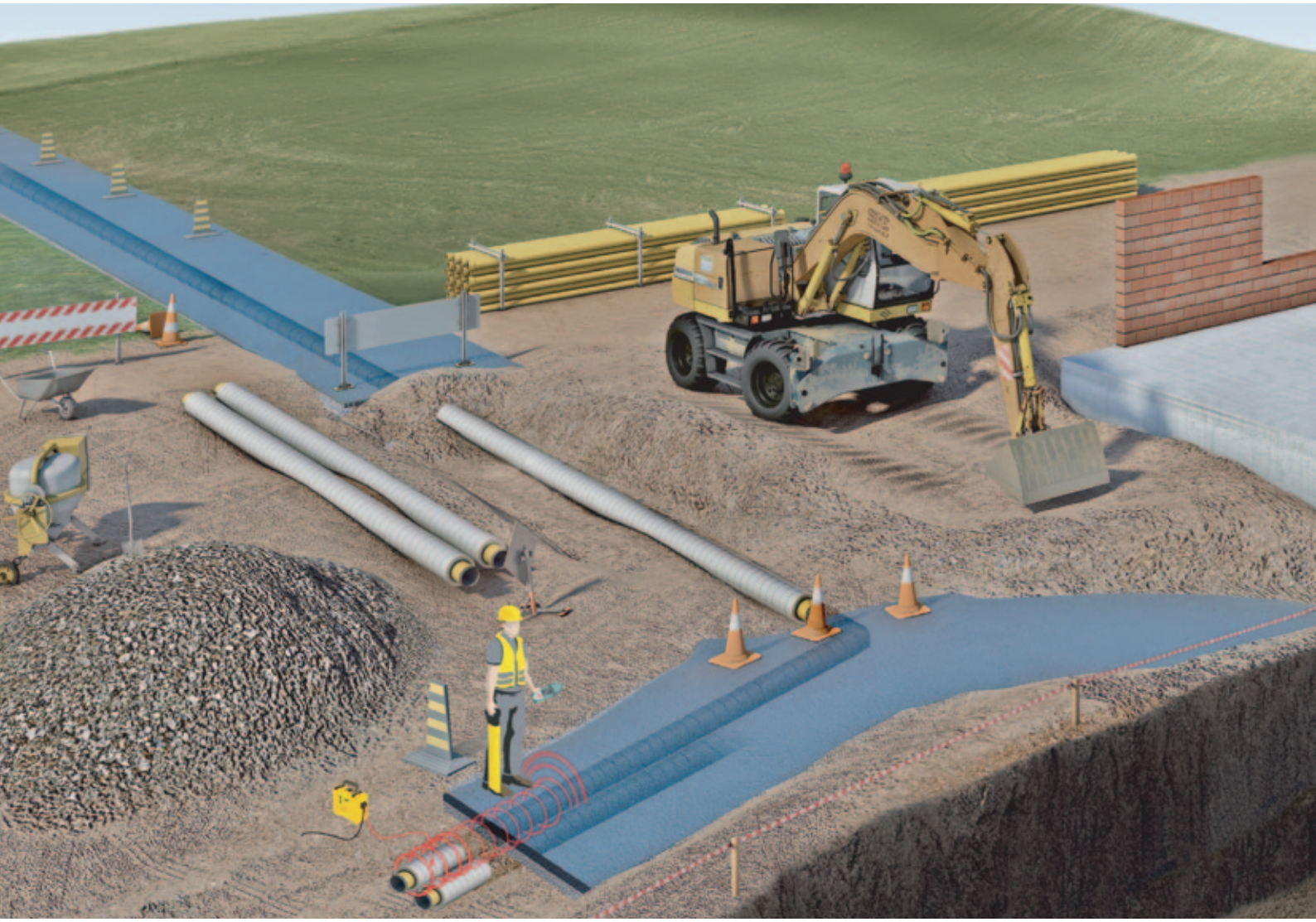
Logicat Software

Bluetooth® Connectivity

Selectable Bluetooth® Option

*All features are described above

Leica Digicat 650i xf & GPS Mapping



The Leica Digicat 650i xf and a GIS field controller, such as the Leica Zeno 10 or 15 offer a simple and cost effective solution to utility contractors who are looking to survey and map underground infrastructure such as cables and pipe-work.

The Digicat 650i xf and Digitex signal transmitter are used to provide a depth reading to the centre of the cable or pipe to be surveyed. The depth reading is then transferred to the field controller via Bluetooth connectivity where the geographical position is added by Leica Zeno field software.

Additional images and comments can be included as part of the survey process including:

1. The type and size of service
2. Date and time of the survey
3. Maintenance requirements
4. Surveyors site notes

Providing a full data capture facility.

Logicat Software
Simply upload stored records

Logicat software allows you to upload stored records from the Digicat 600i xf and 650i xf to view the locator's use, simply upload all records or search by date. Upload information includes:

Time and Date
Identifies when and at what time ground surveys were conducted.

Usage Duration
Determines how long survey teams searched for buried services and reveals actual product utilisation.

User Identification
Encourages users to become accountable for their actions and identifies those who need additional product training.

Detection Mode
Allows managers to judge the quality and thoroughness of work. As more comprehensive ground surveys are conducted the locator records the mode of operation, including the use of a signal transmitter.

Service Detection
Discovers quickly if any buried services were detected during surveys and even determines the signal strength shown on the locator.

Product Fleet Management
Displays and monitors the service and calibration dates of your locator fleet, ensuring they are kept in perfect working order and not being used when calibration is due.

Diagnostic Check
Displays locators which have failed the EST (Extended Self Test) and removes them from the active fleet for immediate repair. This reduces the possibility of defective equipment being used on site.

Management Reports
Produces basic statistical reports from the logged data, allowing users to see how products are utilised and how ground survey teams are using them on site.

Leica Digitex 100t xf & 300t xf
Signal transmitters

The newly developed Leica Digitex xf signal transmitters deliver a higher power output than previous models with the addition of extra low tracing frequencies. This improved performance will allow users to:

- Trace services over a greater distance
- Improve service detection in areas of high signal interference
- Improve depth estimation when using a depth locator

Benefits

- Four adjustable power output levels; select the output for site, tracing conditions
- Durable weatherproof design, environmental protection rating of IP65
- Robust, compact and lightweight design engineered for tough site conditions
- Choice of four tracing signals; select the frequency for site, tracing range
- Ease-of-use, default output frequency of 33 kHz power level 2
- Clear, audio visual controls; externally mounted, displaying the transmitters output condition
- Built-in test function allowing operators to test the hardware and software functionality before use
- Digitex 100t xf producing up to 1 watt of power, Digitex 300t xf producing up to 3 watts of power

Flexibility

Compact design with an IP65 rating, the transmitter is fully protected even in the harshest of conditions.

Leica Digitex 100t xf – Producing up to 1 watt of power
Leica Digitex 300t xf – Producing up to 3 watts of power

Choice of tracing frequencies:

- 512 Hz & 640 Hz – Enables long distance tracing
- 8 kHz – Mid-range distance tracing
- 33 kHz – Standard tracing frequency on avoidance locators, for everyday site use

Accessories

Digitrace
The Digitrace enables non-metallic drains, ducts or pipes to be traced when used in conjunction with the Leica Digicat and Digitex (or other signal transmitters).

The Digitrace 30 metre, 50 metre or 80 metre coiled fibre-glass rod with a metallic tracing wire. The fibre rod is inserted and pushed along the service under investigation. The Digitex signal transmitter is used to apply a tracing signal which is located by the Digicat.

Signal Clamp
For use with the Digitex, enabling connection to cylindrical metallic services (e.g. pipes, insulated electricity cables).

Property Connection Set
Connection of a tracing signal to any internal power distribution system outlet.

Digimouse (8 kHz & 33 kHz)
Compact dual frequency sonde used to trace drains, sewers and other non conductive services. Digimouse can be attached to a range of equipment including drain rods, boring tools and inspection cameras.

Rechargeable Batteries
Available as an optional extra on Digicat and Digitex models.

Digitex Signal Transmitter Pack
Smart Charger with UK, EU, USA adaptors, t-series transmitter, NiMH battery pack and charging cradle.

Digicat Pack
Smart Charger with UK, EU, USA adaptors, i-Series locator, NiMH battery pack and charging cradle.

Additional Extras
Rechargeable D cell pack, rechargeable AA cell pack, additional D cell battery holder, additional AA cell charging cradle and vehicle charger.

Leica Digicat xf-Series
Product specification

Features	Digicat 500i xf Article no. 798640 / 798641	Digicat 550i xf Article no. 798642 / 798643	Digicat 600i xf Article no. 798644 / 798645	Digicat 650i xf Article no. 798646 / 798647
Frequency / Mode	Power mode 50 Hz or 60 Hz, Radio mode 15 kHz to 60 kHz Transmitter mode 8 kHz, 33 kHz, 512 Hz, 640 Hz Auto mode = Power + radio mode	Power mode 50 Hz or 60 Hz Radio mode 15 kHz to 60 kHz Transmitter mode 8 kHz, 33 kHz, 512 Hz, 640 Hz Auto mode = Power + radio mode	Power mode 50 Hz or 60 Hz Radio mode 15 kHz to 60 kHz Transmitter mode 8 kHz, 33 kHz, 512 Hz, 640 Hz Auto mode = Power + radio mode	Power mode 50 Hz or 60 Hz Radio mode 15 kHz to 60 kHz Transmitter mode 8 kHz, 33 kHz, 512 Hz, 640 Hz Auto mode = Power + radio mode
Depth	Power to 3 m, Radio to 2 m Transmitter mode – Dependant on transmitter or Digimouse (Sonde)	Power to 3 m, Radio to 2 m Transmitter mode – Dependant on transmitter or Digimouse (Sonde)	Power to 3 m, Radio to 2 m Transmitter mode – Dependant on transmitter or Digimouse (Sonde)	Power to 3 m, Radio to 2 m Transmitter mode – Dependant on transmitter or Digimouse (Sonde)
Depth estimation		Line mode – 0.3 to 3 m Sonde mode – 0.3 to 9.9 m 10% of depth in line or Sonde mode		Line mode – 0.3 to 3 m Sonde mode – 0.3 to 9.9 m 10% of depth in line or Sonde mode
Protection	Conforms to IP54	Conforms to IP54	Conforms to IP54	Conforms to IP54
Bluetooth®	Not available	Not available	Enabled	Enabled
Batteries	6 x AA alkaline (IEC LR6 supplied)	6 x AA alkaline (IEC LR6 supplied)	6 x AA alkaline (IEC LR6 supplied)	6 x AA alkaline (IEC LR6 supplied)
Battery life	40 hours intermittent use (at 68 F, 20 C)	40 hours intermittent use (at 68 F, 20 C)	40 hours intermittent use (at 68 F, 20 C)	40 hours intermittent use (at 68 F, 20 C)
Weight	2.7 kg including batteries	2.7 kg including batteries	2.7 kg including batteries	2.7 kg including batteries
Compatibility			CSV file compatibility program	CSV file compatibility program
Memory size			32 MB memory	32 MB memory
Capability			80 hrs of data	80 hrs of data

Features	Digitex 100t xf Article no. 798648	Digitex 300t xf Article no. 798649
Operating transmission frequencies	• 8.192 kHz • 32.768 kHz • Mixed 8/33 • 512 Hz • 640 Hz	• 8.192 kHz • 32.768 kHz • Mixed 8/33 • 512 Hz • 640 Hz
Output power	4 levels	4 levels
Induction (Max)	Up to 1w max	Up to 1w max
Direct connection	Up to 1w max when connected to a buried service with an impedance of 100 Ohms	Up to 3w max when connected to a buried service with an impedance of 100 Ohms
Battery type	4 x D alkaline (IEC LR20), supplied	4 x D alkaline (IEC LR20), supplied
Battery Life (Typical use at 20°C)	30hrs intermittent use	20hrs intermittent use
Weight	2.4 kg/5.3 lbs including batteries	2.4 kg/5.3 lbs including batteries
Dimensions	105mm (H) x 190mm (D) x 235mm (W)	105mm (H) x 190mm (D) x 235mm (W)
IP Rating (Case lid closed)	IP65	IP65
IP Rating (Case lid open)	IP54	IP54

Features	Digitrace 30 / 50 / 80 Article no. 796702 / 796703 / 796704
Protection	Conforms to IP54 (30/50/80 coiled fibre-glass rod with a metallic tracing wire)
Weight	3 kg / 3.25 kg / 3.5 kg

Features	Digimouse Article no. 731053
Operating transmission frequencies	8.192 kHz, 32.768 kHz
Battery type	1 x LR6 (AA) alkaline
Battery life (Typical use at 20°C)	40 hrs intermittent use at at 20°C/68°F in 8 kHz mode or 33 kHz mode
Weight	0.18 kg
Dimensions	38mm (H) x 120mm (W)

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Because the best products come with the best service

PROTECT by Leica Geosystems

Lifetime Warranty | No Cost Period | Certified Quality | Swiss Technology

Our products are built to last!

Understanding construction and our customers' needs has enabled us to develop product solutions for all positioning, measuring, levelling, aligning and plumbing tasks on site. Our products provide the highest levels of reliability, accuracy and ruggedness – even under the roughest jobsite conditions, making our customers more productive and successful.

With Protect by Leica Geosystems we offer a best-in-class service where customers can count on us, anytime, anywhere.

Lifetime Manufacturer's Warranty

Warranty coverage for the entire usage time of the product, in accordance with Leica Geosystems International Limited Warranty. This includes free of charge repair or replacement for all products that suffer defects as a result of faults in materials or manufacturing.

No Cost Period

Guaranteed best-in-class service should your product become defective or require servicing under normal conditions of use, as described in the user manual, at no additional charge to you.

Our service includes:

- Repair or replacement of all defective parts, including labour time
- Adjustment and calibration
- Thorough functional test and safety check
- Maintenance, cleaning of product and carrying case

Your serviced product will be returned to you as good as new!

Certified Quality

Leica Geosystems runs calibration laboratories (No. SCS079) and a test laboratory (No. STS549). Both are fully accredited by the SAS, the Swiss Accreditation Service. The calibration and test certificates issued by Leica Geosystems are officially and internationally recognised for horizon, angle, distance, frequency and laser classification. This confirmation of precision guarantees the highest possible reliability for our products. All laboratories are regularly controlled by an independent national institution according to ISO 17025.

Swiss Technology

Swiss Technology creates confidence. Our worldwide operations are in state-of-the-art production centres, where Swiss precision, extraordinary craftsmanship, and cutting-edge technology go hand-in-hand. Continuous and extensive tests throughout all stages of development and production ensure our products meet the highest standards for precision and quality.

We are always there for you.

With a global network consisting of 260 service centres in 87 countries, Leica Geosystems has a powerful network to support you.

Find out more on:
www.leica-geosystems.com/protect

Whenever you need to locate underground services, the Leica Digisystem is the right solution. The system ensures fast and accurate location of buried cables and pipes and it increases your onsite safety. The Digisystem is designed on a safety-first philosophy, so we remove the ability for the user to «tune out» signals or to accidentally search in the wrong mode. The Digisystem tools are rugged and efficient, meeting all the needs of your tracing operations.

When it has to be right.

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Swiss Technology
by Leica Geosystems

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ISO 9001 / ISO 14001

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